Design of Management
Main Point of the Report

- Capturing the value creation mechanism in the past and envisioning the mechanism in the future that enables to approach customer needs/wants, i.e. "design of management" is important.
- IPs should be evaluated in relation to the role they play in business, since IP contributes to the value creation by "being embedded into the value creation mechanism."

Value Creation Mechanism

- Major resource (Internal assets, External assets)
- Business Model
- Output Value (Social Values, Economic Values)

IP Valuation in Business

“Design of Management”

Corporate Philosophy / Business Concept (Basis of new business)

The “value creation mechanism” in the past

External environment in the past

Strategy to shift to the value creation mechanism in the future

The “value creation mechanism” in the future

External environment in the future
Environmental Changes for Corporate Strategy and IP

IP is one of the tools to protect business.

“tangible” assets like large production equipment were important to get/maintain market share.

Supply

Demand

In 1985

In 2015

Supply

Demand

Intangible Assets (Including IP)

32%

Intangible Assets (Including IP)

87%

20th Century

Diversified values / the end of the Cold War

21st Century

You can’t sell products just because they are good.

When you make good products, you can sell them.

IP is also the tool for designing management and open innovation.

Keywords

- Linear thinking
- In-house policy / Produce and sell good products at lower prices
- IP strategy for protecting rights
- Solo strategy by IP department

Keywords

- Design thinking / Pro-innovation strategy
- Open innovation / from goods to services
- IP strategy for making business
- Cooperation between Management Dept. & IP Dept.

Intangible Assets represented by IP, like business models and data to approach customer needs/wants, are important.

(http://www.oceantomo.com/2015/03/04/2015-intangible-asset-market-value-study/

※Percentage of intangible assets is their values in the market cap of S&P 500
We are in the era where simply providing technically superior products or services cannot overcome competitors in business.

Diversified values, technological progress, etc., have made promoting open innovation a premise of success.

It is necessary to design a mechanism that creates the value that users want.

The deliverables of open innovation and design, which are created through human creative activities, i.e. "intellectual property", to be the source of sustainable growth of companies.

It is important to capture the value creation mechanism in the past and envision the mechanism for the future while evaluating the role of "intellectual property" - which means "design of management".

In recent years, a concept called "Creating Shared Value (CSV)" has also been proposed, that embeds solutions to social issues into their businesses and realizes economic outcomes through resolution of these solutions.
Problems of Traditional IP Valuation and Purposes of Study

Problems of Traditional IP Valuation

• Traditionally, in practice, IP valuation was conducted paying attention only to the value of "intellectual property" itself (purchase price of IP alone, license fee, collateral value, etc.)
• However, IPs essentially contribute to the creation of value by embedding into business (In the previous evaluation, the intrinsic value of IPs have not been evaluated.)

Purpose of Study

• To show how the IP valuation in business should be.
• To propose a worksheet (management design sheet) to make people clearly conscious of the value creation mechanism and the position of the IPs in it, which is a prerequisite for conducting the valuation (worksheets are assumed to be used for dialogue between companies and stakeholders, for dialogue between management and IP professionals, etc.)

Targeted Segments

• Corporate executives and IP professionals (including patent attorneys) as well as the ones who support corporations like financial institutions and the ones who belong to industry-academia collaboration Dept. and Technology-Licensing-Organizations of universities.
• Irrespective of the company size (large enterprises / small and medium-sized enterprises etc.,) or the company history (long-established enterprises or newly ventures)
Business vision, business concept, social issues the business is going to solve, business goals, KPI etc.

Business summary

Relevance to management policy

Business summary

Relevance to management policy

Resource

Business Model

Value

Business Model

Value

Major resource

Internal resources

External resources (from who)

IPs

Profit mechanism

How you use resources to create value?

Role of IPs

In collaboration with whom?

Access to external resources?

Output value

To whom?

What?

External Environment

Pros

Cons

Market situation

Problem (weakness)

IPs

External Environment

Pros

Cons

Market situation

Strategy for transition to the future image

Past

Future

External environment

Pros

Cons

Market forecast

Challenges in transition

Necessary Resources

Solutions

• How to procure necessary resources
• How to shift the business to the "Future" form
Design of Management

**Company unit**
- Capture and design the relevance of each business and synergy among businesses from the company-wide viewpoint
- It is effective to make the business portfolio visible

**Business unit**
- In the business portfolio, the value creation mechanism of the business unit cannot be captured / designed
- Capture and design how resources are used to create value in business

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**Corporate Philosophy / Business Concept** (Basis of new business)

- The “value creation mechanism” in the past
  - External environment in the past
  - IPs

- The “value creation mechanism” in the future
  - External environment in the future
  - IPs

- Strategy to shift to the value creation mechanism in the future
  - IPs

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Worksheet
Example of Management Design

**Major resource**

- **Past**
  - Photographic film technology
  - Understanding of Strength (IP)
    - Dyeing technology
    - Synthetic technology

- **Future**
  - Internal Resources
    - Dyeing Technology
    - Synthetic technology
  - External Resources
    - Penetration technology for the hair
    - Distribution channels to beauty salon

**Business model**

- **Past**
  - Produce and sell films
    - Photo developing service

- **Future**
  - Produce and sell hair colors
    - Design a new business using the strength (IPs)

**Output value**

- **Past**
  - Social value: Keeping the record as images (Preservation of memories)
  - Economic value: Offering safe and secure products
    - Profit: FY2000: 100, FY2010: 10, Decrease in the value of IPs 1/10

- **Future**
  - Social value: Offering human aspirations (Youth · Beauty)
  - Economic value: Offering safe and secure products
    - Profit: (FY2010: 10), FY2020: 30, Contribution of IPs X3, Increase in the value of IPs

※ This is a virtual case produced by the Secretariat for Intellectual Property Strategy Headquarters
The valuation of intellectual property (IP) should be done in relation to the value creation mechanism, since IP is a "one of management resources" and contributes to the value creation by "being embedded into the value creation mechanism." (※)
The value of IP to be captured based on this idea is entitled "business value of intellectual property."

According to this idea, IPs as follows could pertain to business values:

- IPs held for so-called defensive purposes, but which are contributing toward maintenance of the business model
- IPs that contribute to new value creation by being embedded into other company’s business, though it is not utilized in its original holder’s business.
- IPs that are expected to contribute to the value creation in the future by being embedded into the business plan, even if they do not contribute to the value creation at present
Qualitative Valuation

Evaluate IPs **through capturing the role they play in business**. When necessary, classify the degree of contribution of IPs to business (by ranking etc.).

<table>
<thead>
<tr>
<th>Major Role (Major classification)</th>
<th>Major Role (Examples of minor classification)</th>
<th>Examples of IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create business</td>
<td>—</td>
<td>Business model / corporate philosophy / organizational culture &amp; climate</td>
</tr>
<tr>
<td>Realize, maintain, and develop business model</td>
<td>Encourage cooperation with others / Improve bargaining power / Secure the degree of freedom for business / Secure competitive advantage by excluding imitation to new entry into the market / Strengthen customer loyalty / Provide materials for planning strategies and products / Improve added value of products and services / Expand markets by open strategy</td>
<td>IP rights (patents, designs, trademarks, copyrights, trade secrets) / Know-how / Data / Technical standard / License agreement / Rules / Corporate philosophy / Organizational culture &amp; climate</td>
</tr>
<tr>
<td>Secure direct income</td>
<td>License income / Income from sale / Securing price advantage / Ensuring cost advantage</td>
<td>IP Rights / Data / Technology Certification / License Agreement</td>
</tr>
<tr>
<td>Acquire / improve trust and reputation from outside</td>
<td>Acquire external recognition / Improve feasibility / Perception of future potential</td>
<td>IP Rights / Corporate Philosophy / Organizational Culture &amp; Climate</td>
</tr>
<tr>
<td>Motivate employees</td>
<td>Acquire confidence / Improve employee’s Loyalty to Company / Fulfillment of desire for honor &amp; contribution</td>
<td>IP Rights / Corporate Philosophy / Organizational Culture &amp; Climate</td>
</tr>
</tbody>
</table>
Quantitative Valuation

- In quantitative valuation of IP, after qualitatively evaluating IP embedded in the value creation mechanism, the effect of the IP on the whole value creation process shall be quantified.
- There are several monetary valuation methods including the well-known ones hitherto, and it is necessary to select an appropriate method according to the case of valuation.

Major methods of monetary quantitative valuation

<table>
<thead>
<tr>
<th>Cost approach</th>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical cost method</td>
<td></td>
<td>A valuation method by the sum of all expenditure costs that have been borne by the target IP to reach the current state</td>
</tr>
<tr>
<td>Replacement cost method</td>
<td></td>
<td>A valuation method to estimate and evaluate the necessary cost to recreate IP similar to the target IP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market approach</th>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similar transaction comparison method</td>
<td></td>
<td>A valuation method to analyze the value of the target IP with reference to the sales price of a similar IP actually bought and sold in the past</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income approach</th>
<th>Method</th>
<th>Description</th>
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<tbody>
<tr>
<td>Royalty exempt method</td>
<td></td>
<td>A valuation method to estimate the royalty cost expected to be paid to the third party from a similar license agreement, assuming that the target IP is licensed from a third party</td>
</tr>
<tr>
<td>Excess profit method</td>
<td></td>
<td>A valuation method to calculate the part attributable to IP (excess benefit) in the total benefit and discount it as the present value to make it the value of the target IP</td>
</tr>
<tr>
<td>Profit division method</td>
<td></td>
<td>A valuation method to find the value of the target IP by allocating the profit (present value) obtained from the business according to the degree of contribution of the target IP</td>
</tr>
</tbody>
</table>
Quantitative Valuation Except for Monetary Valuation

- When it is difficult to make a monetary valuation, it is effective to use an index that can infer the contribution of the target IP to the value creation mechanism.
- When such indexes are set and shown to the outside, it is required to explain the reason for setting them.

### Examples of index

※It is not necessary to adopt the examples below. Index should be appropriately selected depending on the valuation case

- Percentage of the number of patents owned by the company in the total number of patents which is essential for the business (patents which must be exploited for the business) in the electrical equipment / precision equipment business
- The ratio of the number of the standard essential patents (SEPs) owned by the company in the total number of SEPs on the market, when the SEP is necessary for entering the market, in the industry where standardization is being promoted like the IT industry.
- Number of IPs that became available due to the company’s own ownership or formation of alliance.
- In small and medium-sized enterprises, (1) the ratio of transactions with large companies and (2) the proportion of non-OEMs in their products (for example, when both (1) and (2) are high, the degree of IP contribution is assumed to be high)
- In the venture company, the investment amount achieved by evaluating proprietary IPs
- Price premium rate by brand, when brand is established.
- Market share of products and other factors using proprietary IPs (including implementation by licensed competitors)
- Number of license-outs to strengthen / expand their business
- The decrease in scrap rate due to utilization of proprietary patents in the semiconductor business
Concept Example of Monetary Valuation

Running a business (expressed as a ranch) with protections of IP (expressed as fences)

Value of business

Present value

Future value (without IP)

Future value (with IP)

Expanding a business by protecting with IPs
- More cows (goods) to sell
- The land improved and expanded
- Accumulated know-how etc.

Value Creation Effect of IP
The “management design sheet” does not merely serve as a step of understanding the value creation mechanism and evaluating the business value of the IP, but also it can achieve the following effects through its drawing and utilization.

### The effect through drawing the management design sheet

1. Environmental analysis & design and review of value creation mechanism at company level
2. Design and review each business model
3. Planning for optimization of resource allocation
4. Planning of IP strategy, Planning for optimization of IP investment
5. Appropriate business valuation etc. in the course of M & A

### Showing the management design sheet inside the company

1. Facilitate in-house adjustment
2. Improve employee's morale
3. Promote in-house innovation

### Showing the management design sheet outside of the company

1. Facilitate open innovation
2. Appropriate valuation by communicating with financial markets
3. Convergence of results of valuation

To the next page
For the entire society

Accelerate innovation
Appropriate compensation for IP infringement

Improve productivity
Smooth business succession in small and medium enterprises etc.

For the entire society

Company A
Visualization of value creation mechanism
Valuation (IP etc.)
Compare/adjust
Convergence of valuation results & Formation of market view
External resource utilization
Improve management /Accelerate new business development
Create value & IP / Enhance corporate value

Stakeholders (Investors/Financial Institution)
Valuation (IP etc.)
Compare/adjust
Refinement of valuation at investment / loan
Investment/loan

Company B, C...
Visualization of value creation mechanism

Effective Use of “Management Design Sheet” (2)
1. **Publicize the concept in this report when spreading communication tools like Intellectual Assets-Based Management Report, integrated report, Local Benchmark etc.**

   Examples: Recommend as a model example of communication tool
   Add usage situation of management design sheet to communication award criteria

2. **Encourage financial institutions to introduce the concept in this report to be introduced in the business assessment**

   Examples: Promote to improve IP valuation ability
   Set incentives to introduce IP valuation in business

3. **Increase opportunities for companies to evaluate business value of IP**

   Examples: Use the sheet as attachments to verify applicant requirements with application form of subsidies
   Use the sheet for technical review in bidding of comprehensive evaluation method
   Collect and disseminate case examples of management design sheets

4. **Increase opportunities for employees and others to valuate IP in business**

   Examples: Hold study sessions / workshops aiming at preparing management design sheets
   Use the sheet in business contests etc.
   Add to the scope of qualification examination on management and IP and to the skill standard examination
   Use the sheet in lectures and exercises of universities
Verification, Evaluation, and Planning Committee
- Draft of the “IP Strategic Program 2018”

Special Committee on IP Strategy Vision
- Made a draft of "Intellectual Property Strategy Vision"
- Discussed medium- to long-term social and IP related system, looking toward 2025 - 2030 resources etc.

Taskforce for IP Evaluation in Business ※
Chair: Dr. Toshiya WATANABE, Professor, University of Tokyo, Policy Alternatives, Research Institute

Conference on Industrial Property Right Fields
Chair: Dr. Toshiya WATANABE, Professor, University of Tokyo Policy Alternatives, Research Institute

Conference on Content Fields
Chair: Dr. Ichiya NAKAMURA
Professor, Keio University Graduate School of Media Design

Had 7 meetings from Nov. to April
<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Hidetaka AIZAWA</td>
<td>Professor, Law Faculty, Musashino University</td>
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<tr>
<td>Genjiro HAGINO</td>
<td>President, YAMATO GOKIN CO. LTD. Member of The Intellectual Property Strategy Committee, The Japan Chamber of Commerce and Industry / The Tokyo Chamber of Commerce and Industry</td>
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<tr>
<td>Makoto KOBAYASHI</td>
<td>Senior Vice President, Deloitte Tohmatsu Financial Advisory LLC</td>
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<tr>
<td>Riichi KOWASE</td>
<td>Managing Executive Officer, Kiraboshi Bank, Limited</td>
</tr>
<tr>
<td>Toshihiko MORI</td>
<td>Chairman, Not-for-Profit Organization Japan Personal Property Appraisal</td>
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<tr>
<td>Takeo OKUDA</td>
<td>General Manager, Technology and Intellectual Property H.Q. Intellectual Property Center, OMRON Corporation</td>
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<tr>
<td>Masahiro SAMEJIMA</td>
<td>Attorney at Law / Patent Attorney, UCHIDA &amp; SAMEJIMA LAW Firm</td>
</tr>
<tr>
<td>Daichi SEKI</td>
<td>Senior Manager, Certified Public Accountant, Ernst &amp; Young ShinNihon LLC</td>
</tr>
<tr>
<td>Yoshiko SHIBASAKA</td>
<td>KPMG Japan Integrated Reporting Center of Excellence (CoE)</td>
</tr>
<tr>
<td>Yukio SUZUKI</td>
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